



Consumer Guide

Tech Transitions: From Copper to Fiber Optics

America's communications networks have been rapidly changing from copper-based networks originally built for voice services to alternative platforms built for a variety of purposes, including broadband, video and data as well as voice. These "tech transitions" involve switching the network infrastructure from copper wire to optical fiber and coaxial cable, combinations of all three, or even wireless technology. They also often involve changing to network equipment that uses Internet Protocol, or "IP," to communicate.

Telephone service providers replacing their copper networks with fiber must comply with FCC rules designed to protect customers. The rules focus on:

- Ensuring reliable backup power
- Protecting consumers who must be informed about their choices
- Providing consumers options in preserving competition where it exists today

Here are some frequently asked questions about what you can expect from a copper-to-fiber tech transition:

Can service providers change the network they use to provide my service without my consent?

Telephone service providers can replace their copper wire networks, but such a transition should not have any significant effect on your telephone services. If a service provider wants to stop or reduce the telephone service provided to existing customers, or replace the existing service with a different type of service (like IP-based service), it must apply to the FCC for approval.

What prior notice will I receive if my provider decides to change the network it uses to provide my service?

Service providers must directly notify residential customers of plans to retire the part of the copper networks that extend to the consumers' premises at least three months in advance. Non-residential retail customers must be notified least six months in advance.

What prior notice will I receive if my service will be affected?

Service providers must directly notify customers of plans to discontinue, reduce, or impair their service. Depending on who the service provider is, that notice may be either 30 days or 60 days prior to the planned change.

You can file comments or objections to a planned discontinuance, reduction, or impairment of service. The notice from the service provider will include the deadline for filing comments or objections, as well as how to file them. Depending on who the service provider is, the period for filing comments or objections may be either 15 days or 30 days from the date of the notice.



What are the concerns about backup power and how are they being addressed?

Traditional landline service typically works during power outages, but modern alternatives usually need backup power to keep operating. FCC rules require providers to provide consumers with:

- Information about this topic
- The option to purchase backup power to last for eight hours. (The option to purchase backup power for 24 hours will be available within the next three years.)

While many service providers do provide a backup battery unit, you are responsible for making sure the backup unit's batteries are charged and functional. You can decline back-up power options and will not be forced to purchase or pay for equipment you do not want.

It is possible that you may still have copper-based service, but that you have lost line power because other parts of the network have been replaced with fiber. The only way to know if this is the case is to check with your service provider.

What should I ask my service provider if my network is transitioning?

In most cases, you will not need to do anything; services and rates are not supposed to change because of a network transition. But if you are concerned about the telephone network you use, you can call your telephone company and ask about any transition plans. Some things you can ask include:

- Is my network transitioning from copper wire to fiber? If so, is just part of the network being replaced with fiber, or the entire network all the way to my house?
- Do you provide backup battery systems for your customers? If so, how much will I need to pay for these backup batteries, if anything?
- Are you switching to an all-IP network?
- If you are switching to an all-IP network, how will my service be affected?
- Will things like a fax machine or a home security system be able to operate with the new network?

What are some differences between copper wire and fiber optics networks?

	<i>Copper</i>	<i>Fiber</i>
Service	<ul style="list-style-type: none">• Limited speeds• Suseptible to signal interference/loss	<ul style="list-style-type: none">• Extremely high speeds are possible• Lower signal loss
Reliability	<ul style="list-style-type: none">• Relatively short life	<ul style="list-style-type: none">• Longer life cycle requiring less frequent maintenance• Lighter and thinner, making it easier to deploy
Power	<ul style="list-style-type: none">• Will work in the event of a power outage	<ul style="list-style-type: none">• Backup battery units required during power outages

Will I be required to upgrade my service and pay for features I don't want?



If you are an existing customer who only receives traditional telephone service, you cannot be required to subscribe to additional services, such as Internet access and television programming. If you only want traditional telephone service over the telephone network, whether it is copper or fiber, the service provider must keep that option available.

What has been done to prepare for these tech transitions?

The FCC authorized various experiments and launched data collection initiatives in 2014 to evaluate how customers are affected by technology transitions. Using service-based experiments, we have begun to examine the impact on consumers and businesses of replacing existing services with IP-based alternatives.

The FCC also sponsored targeted experiments and cooperative research to learn how new technologies can more effectively reach all Americans, including individuals with disabilities, and provided funding for rural broadband experiments to help the FCC understand what kinds of next-generation networks can best serve the needs of rural America.

Additionally, everyone was given the opportunity to provide input using the FCC's public comment process.

How can I find information about tech transitions where I live?

Service providers are required to notify states when a transition is planned. If you think your network has undergone a transition and you were not notified, you may wish to contact your state public utility commission to inquire about network changes taking place in your region. They may also be able to share information about alternative providers in your area. Contact information for your state public service commission can be found at www.naruc.org or in the blue pages or government section of your local telephone directory.

Filing a complaint

You have multiple options for filing a complaint with the FCC:

- File a complaint online at <https://consumercomplaints.fcc.gov>
- By phone: 1-888-CALL-FCC (1-888-225-5322); TTY: 1-888-TELL-FCC (1-888-835-5322); ASL: 1-844-432-2275
- By mail:

Federal Communications Commission
Consumer and Governmental Affairs Bureau
Consumer Inquiries and Complaints Division
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